BOSTON, Oct. 31 - The death of a 21-year-old college student outside Fenway Park on Oct. 21, the night the Red Sox beat the Yankees for the American League pennant, is only the latest reminder that crowd control has re-emerged as one of the toughest challenges for the police nationwide.

"I've known some police chiefs who now hope their hometown team doesn't win because controlling a big crowd can be so difficult," said Chuck Wexler, the executive director of the Police Executive Research Forum, an organization of police chiefs meant to promote smarter law enforcement.

The problem of crowd control had largely disappeared decades ago, said Mr. Wexler and several big-city police chiefs. That changed with the World Trade Organization meeting in Seattle in 1999, when 35,000 protesters were drawn to the talks and the police sprayed tear gas and rubber pellets at many demonstrators.

"The W.T.O. demonstrations were a real groundbreaker; it really woke up the police," said Seattle's current police chief, Gil Kerlikowske.

Dealing with crowds has forced the police to search for new and effective ways to maintain order.

"Dealing with these kinds of crowds, particularly if people have been drinking, is such a no-win situation," Mr. Wexler said. "It is very difficult for police chiefs to manage the competing priorities in these situations, allowing people to exercise their First Amendment rights while protecting public safety."

He added: "Police chiefs know they can control 99 percent of a demonstration, but if one officer does anything wrong, they will be held accountable. Crowd control is a real drain on resources, and there is always the threat of litigation."

Since the 1992 riots in Los Angeles after the acquittal of four officers in the videotaped beating of the motorist Rodney King, the police have come to realize that the constant presence of video cameras means whatever they do may be captured on tape and broadcast.

A result is that many police forces now devote much more time to planning and training for demonstrations, and have invested heavily in what are termed less-than-lethal weapons.

It was one of these new weapons, a FN Herstal pepper-spray pellet gun, that killed the Emerson College student in Boston after the pennant-clinching game, the police here have said. The student, Victoria Snelgrove of East Bridgewater, was hit in the eye by the pellet, which was supposed to break up on impact and release a small cloud of disabling gas.

It is not supposed to be aimed above chest level, according to warnings from the manufacturer.

Two young celebrators on Lansdowne Street at Fenway Park also suffered injuries that evening, with one cut above the lip by a pellet and another with pellet fragments that penetrated his skull.

Kathleen O'Toole, Boston's police commissioner, has appointed an independent commission, headed by a former United States attorney here, Donald Stern, to investigate.

Several other cities also have the FN Herstal pellet-spray guns but have not used them.

Seattle is among them, and Chief Kerlikowske dispatched a team of senior officers as observers over the past year to cities where demonstrations were expected, including Boston during the Democratic National Convention in July, New York during the Republican National Convention in August and September and Savannah, Ga., in June during a meeting of the Group of 8 leaders.

"By far the best tool is having a large number of officers you can deploy," Chief Kerlikowske said. He has used officers on bicycles to move ahead of demonstrators or to form blocking cordons.

"Especially with sports demonstrations, I just don't see effective weapons except for a large number of officers," he said.

The Seattle police are equipped with Taser stun guns that fire an electric shock. But Chief Kerlikowske said they would not be useful in dealing with large numbers of demonstrators packed tightly together or hiding behind one another.

Tasers are more effective in dealing with people suffering from mental illness who are threatening an officer, so the officer does not have to fire his gun, he said.

The trouble is that except for New York, no city has the deep reserves of police officers needed for crowd-control duty, said John F. Timoney, Miami's police chief, who was formerly the police commissioner in Philadelphia and before that first deputy commissioner in New York.

While New York has 36,000 police officers, Chief Timoney said, Boston has only about 2,200 and Miami only 1,100.

At the Democratic National Convention in Manhattan in 1992, Chief Timoney said, he was able to put 4,000 officers at the scene to prevent violence.

Mr. Timoney got his own taste of dealing with demonstrators in Miami last November during a meeting of the Free Trade Association of the Americas.

The demonstrators, some of whom had protested at the World Trade Organization in Seattle, started hurling bottles and setting fire to cars on the fourth day of the event, Mr. Timoney said.

"We then made a decisive move on them, clearing them back six or eight blocks," he said. But when his officers fired pepper balls, a less high-powered version of the weapon used in Boston, "It was clear they were not working."

"After it was over, I didn't understand why these things didn't work, so I went out in a parking lot and let myself be shot by a pepper ball," Mr. Timoney said.

"I felt a stinging in my chest," he said. "It hurt. But as far as releasing pepper spray, I didn't smell anything. So I decided the weapon was a waste of time." The Miami police are now trying out another technology, a liquefied form of pepper spray that can be fired at demonstrators up to 20 feet away like a squirt gun, Mr. Timoney said.

In Boston on Saturday for the celebratory parade after the Red Sox won the World Series, the police were more successful in dealing with excited baseball fans than they were after the pennant victory. This time, they deployed a huge number of officers as the Red Sox paraded through the city.

The crowd, estimated by the city at 3.2 million people, was the largest ever in Boston, according to Mayor Thomas M. Menino. Only 20 people were arrested for disorderly conduct or public drunkenness, the police said.

Twenty people were also taken to hospitals with minor injuries.

http://www.nytimes.com/2004/11/01/national/01crowds.html? ex=1100333264&ei=1&en=fb7cf1bca1371524